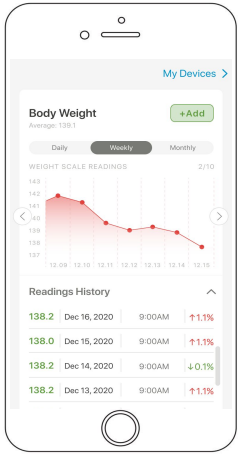
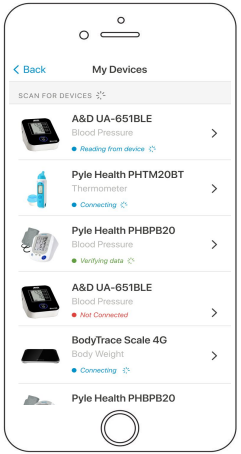
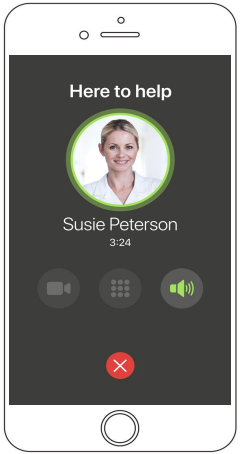
CASE STUDY

Device-agnostic RPM App with PERS Solution

With tailor-made UX, our app collects data from multiple IoMT devices, connects to back-end, and provides comprehensive vitals information to both the patient and clinical team.







Telehealth, Remote Patient Monitoring, and Medical Devices; Clinical Decision Support Systems

Mobile: React Native, iOS

15 Months

Challenge

Following its digital transformation journey, a large provider recognized the need to make use of fast-changing technology for the benefit of both patients and business.

Specifically, our client provides life-saving remote patient monitoring and preserves the patients' independence while supporting the caregivers.

Our goal was to create a mobile app to increase the solution's adoption rate among seniors and persons with disabilities or illnesses.

As such, the client sought to deploy an easy-to-use, device-agnostic solution that would solve compatibility issues and minimize the need for technical support.

Solution

After reviewing business requirements with our client, we developed an App-Store-published mobile app with React Native that used iOS components as wrappers for Bluetooth, Twillio API, and Validic. All user authentication and authorization is done through Auth0 and biometric authentication.
The app supports two types of users with different flows depending on user type.

The first user type uses the app daily to track various conditions using Bluetooth medical devices (glucometer, oximeter, blood pressure monitor, weight scale...). This data is captured, standardized, and transmitted using Validic SDK.

The app sends the collected data to the client's backend system, giving them instant access each user's collected information.

To maximize ease and clarity, historical data is visually presented to the end-user with SVG charts.

The second type of user can access the client's emergency call center with the press of a button (on the pendant or mobile app). The PERS solution establishes the VoIP call using Twillio API. In addition to calling, the React Native Geolocation service captures the user's location and sends that information to the back-end.

To notify the user about important events or actions, the app has a set of local and sound notifications.

For full-featured mobile CI/CD in the cloud, we use Bitrise along with TestFlight for application testing.

Keeping in mind that many of the users are elderly, our UX team designed a simple, intuitive experience catered to the demographic's needs.

Benefits

- A user-friendly UX and onboarding process for an enhanced patient adoption rate.
- Improved quality and completeness of information received.
- Enhanced overall care-management system through faster information exchange.
- Saved a substantial amount of client's personnel work/hours.
- By implementing this solution our customer laid a foundation for future system expansion:
    - deploying machine learning or AI algorithms to speed up recognition of life-threatening conditions
    - analyzing large data sets based on data collected from IoMT
    - instant data access, enabling comprehensive dashboards in the back-end